KLEINFELDER

February 25, 1988
File: 50-1346-02-03

Mr. Alan Dolmatch
Aldrich, Eastman and Waltch, Inc.
265 Franklin Street
Boston, Massachusetts 02110

SUBJECT: Soil and Groundwater Assessment Study
Lincoln Industrial Center
Santa Fe Springs, California

START

Dear Mr. Dolmatch:

This letter-report provides the results of our environmental investigation of the Lincoln Industrial Center located in Santa Fe Springs, California.

INTRODUCTION AND SCOPE OF WORK

The purpose of Phase 2 of the assessment, which was authorized by Aldrich, Eastman and Waltch, Inc. (A.E.W.) on February 10, 1988, was to drill two soil borings to evaluate (1) if hydrocarbon contamination exists in the soil below the area where the old tanks were removed and (2) if soil contamination exists adjacent to the oil and paint sump.

The purpose of Phase 3 of the assessment, which was authorized by A.E.W. on February 16, 1988 after contamination was found during Phase 2, was to drill and install three monitoring wells. These monitoring wells were installed at the site of the oil and paint sump (LIC-1), at the old tanks (LIC-2), and at an up-gradient site (LIC-3). Monitoring well LIC-2 was installed to evaluate

the amount of diesel contamination below the old tank area and wells LIC-1 and LIC-3 were installed to evaluate background contamination and estimate the groundwater gradient.

FIELD INVESTIGATION

For Phase 2 of the site investigation, a 30-foot deep soil boring (LIC-1) was drilled 6 feet north of the concrete-lined oil and paint sump on the north side of Building G. Soil samples were taken at 5-foot intervals and tested for hydrocarbon vapors by the photo-ionization detector (PID) using the head-space method.

As part of Phase 2, soil samples were taken at 5-foot intervals in soil boring LIC-2. This soil boring, which is in the vicinity of the old tanks, encountered diesel fuel in the soil at 20 feet below the surface and then encountered diesel fuel floating on groundwater at a depth of 34 feet. The soil samples from both soil borings were transported to Chemical Research Laboratories, Inc. and the drill cuttings were placed in DOT-approved drums.

Phase 3 consists of the installation of three monitoring wells at sites LIC-1, LIC-2, and LIC-3. Monitoring wells LIC-1, LIC-2, and LIC-3 were drilled to depths of 50 feet below the ground surface and PVC wells with gravel pack were installed. Water samples were obtained and transported to Chemical Research Laboratories, Inc. for analyses. The water sample obtained from monitoring well LIC-2 contained only diesel fuel and thus was not analyzed. The thickness of diesel fuel in well LIC-2 was measured using a well sounding tape coated with petroleum sensitive paste.

ANALYTICAL RESULTS

TABLE 1

Monitoring Well	LIC-1	LIC-2	LIC-3
Soil	Arsenic 3.56 ppm Barium 80.9 ppm Cadmium 0.59 ppm Chromium 20.5 ppm Lead 8.92 ppm Mercury 0.052 ppm Selenium - ND Silver - ND	500 ppm Total petroleum hydrocarbons (Diesel)	ND
Water	9 ppb Tetra-chloroethene	NA	19 ppb Tetra-chloroethene

ND - means not detected at the detection limit
NA - means not analyzed

Soil from monitoring well LIC-1 was analyzed for volatile organic compounds by EPA method 8240 and for federal priority pollutant metals. Results from the volatile organic analysis of the soil showed all constituents tested below their respective detection limits. Results from the federal priority pollutant metals do not show abnormally high values (see Table 1).

Soil samples from monitoring well LIC-2 were analyzed for petroleum hydrocarbons by EPA methods 8015 and 8020. Results from these tests showed a concentration of 500 parts per million (ppm) total petroleum hydrocarbons (diesel) with no detectable purgeable aromatic compounds (gasoline) in the soils. Directly below these soil samples at 34 feet, a layer of diesel fuel approximately 6 feet thick was detected floating on groundwater surface (See Plate 2).

Groundwater in monitoring wells LIC-1 and LIC-3 was tested for volatile organic compounds. The results from the volatile organic analyses indicated that all constituents tested below their respective detection limits, except for tetrachloroethene, a

component of dry cleaning fluids, metal degreasing fluids, and some solvents. This compound was identified in groundwater samples from LIC-1 and LIC-3. The concentrations range from 9 micrograms per liter (ppb) in LIC-1 to 19 (ppb) in LIC-3. Both of these monitoring wells are believed to be up gradient from the tank area and thus we believe that the concentration of tetrachloroethene (PCE) may reflect a regional water quality problem and was not created by an on-site source.

from oil and paint sump via LIC-1

CONCLUSIONS

1. At a depth of 34 feet below the surface in monitoring well LIC-2, diesel fuel measuring approximately 6 feet in thickness was encountered (Plate 2).

2. A soil sample taken at 20 feet below the surface in LIC-2 had values of 500 ppm total petroleum hydrocarbons (diesel fuel) in the soil sample (See Table 1).

3. Analytical testing for volatile organic compounds in the soil samples (EPA method 8240) from monitoring wells LIC-1 and LIC-3 yielded values below the detection limit stated by the analytical laboratory.

4. Testing of the soil in monitoring well LIC-1 for federal priority metals <u>did not</u> yield values that were abnormally high.

5. Based on the volatile organic and federal priority metals analyses in soil samples from monitoring well LIC-1, no leakage was detected from the concrete lined sump.

?
How is tested

6. Analytical testing of groundwater from monitoring wells LIC-1 and LIC-3 did not detect volatile organic compounds above the detection limit of analyses, except for tetrachloroethene (PCE).

7. Tetrachloroethene (PCE) was detected in groundwater samples from monitoring wells LIC-1 and LIC-3 in concentrations of 9 ppb and 19 ppb, respectively.

8. The California State Department of Health Services has set an action level of 4 ppb for tetrachloroethene (PCE). It is believed that tetrachloroethene (PCE) is a regional water quality problem and may not be from an on-site source.

RECOMMENDATIONS

1. That Aldrich, Eastman, and Waltch, Inc. inform the property owner that approximately 6 feet of diesel fuel is floating on the groundwater in monitoring well LIC-2 so the property owner can inform the Regional Water Quality Control Board of the problem.

2. That the concrete lined sump be cleaned and closed because of the potential liability problems posed by this type of a holding tank.

3. That KLEINFELDER be retained to delineate the extent of the diesel plume by installing approximately eight additional monitoring wells.

4. That Kleinfelder be retained to investigate and develop appropriate remedial action plans.

LIMITATIONS

The conclusions and recommendations in this report are based on:

1. Subsurface conditions assessed from three borings drilled at the site.

2. The observations of field personnel.

3. The results of laboratory tests performed by Chemical Research Laboratories, Inc. on soil and groundwater samples.

It is possible that variations in the soil or groundwater conditions could exist beyond the points explored in this investigation. Also, changes in the groundwater conditions as noted could occur at some time in the future due to variations in rainfall, temperature, regional water usage, or other factors.

The standard of services performed by KLEINFELDER has been conducted in a manner consistent with the level of care and skill ordinarily exercised by members of our profession currently practicing under similar conditions in the Los Angeles Area. No other warranty is expressed or implied.

We trust that the information shown in this report meets your needs at this time. Should you have any questions regarding the report, please feel free to contact us at you convenience.

Sincerely,

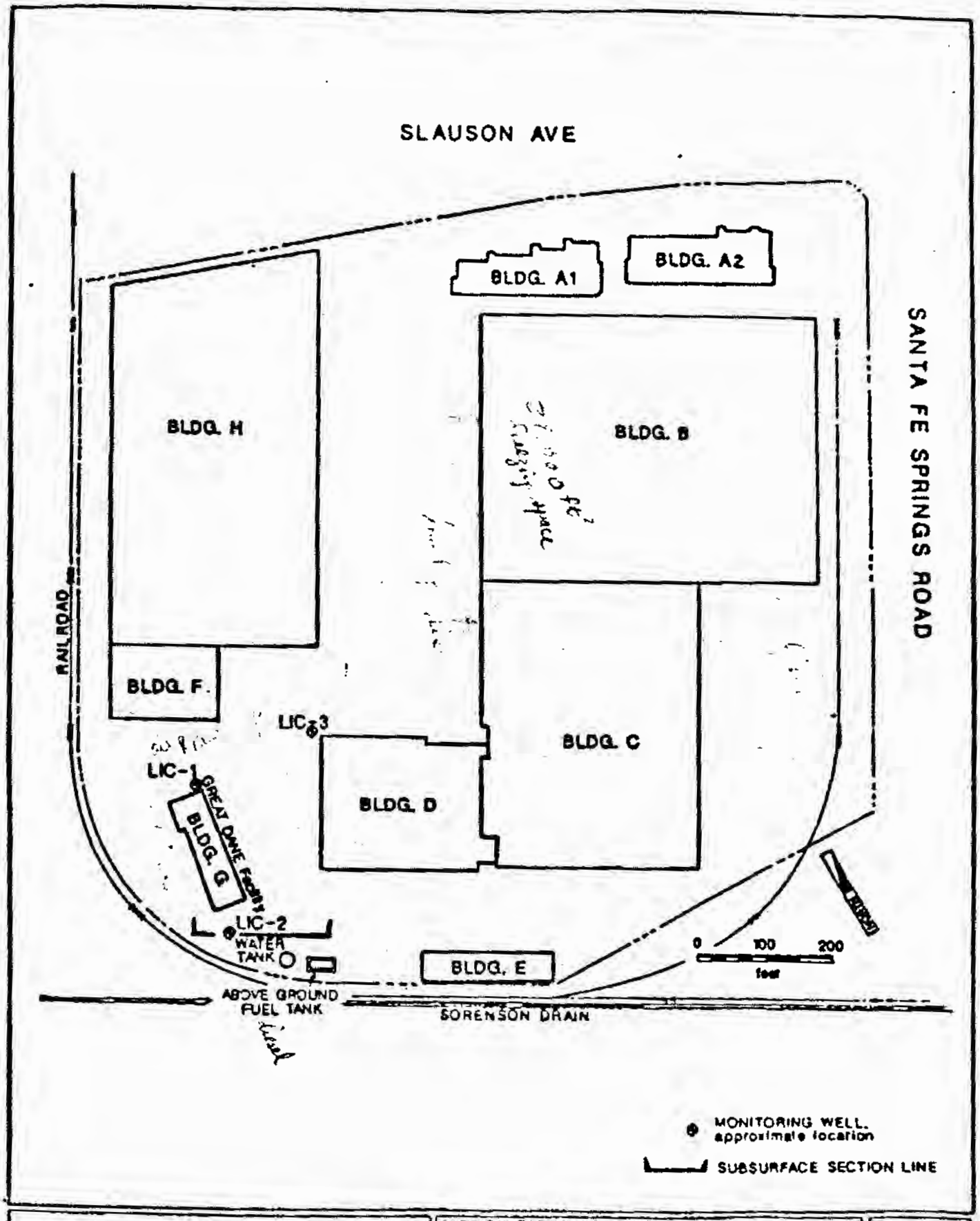
KLEINFELDER

Stephen E. Joseph, R.G. #4294
Project Hydrogeologist

John F. Ficke, P.E.
Engineering Manager

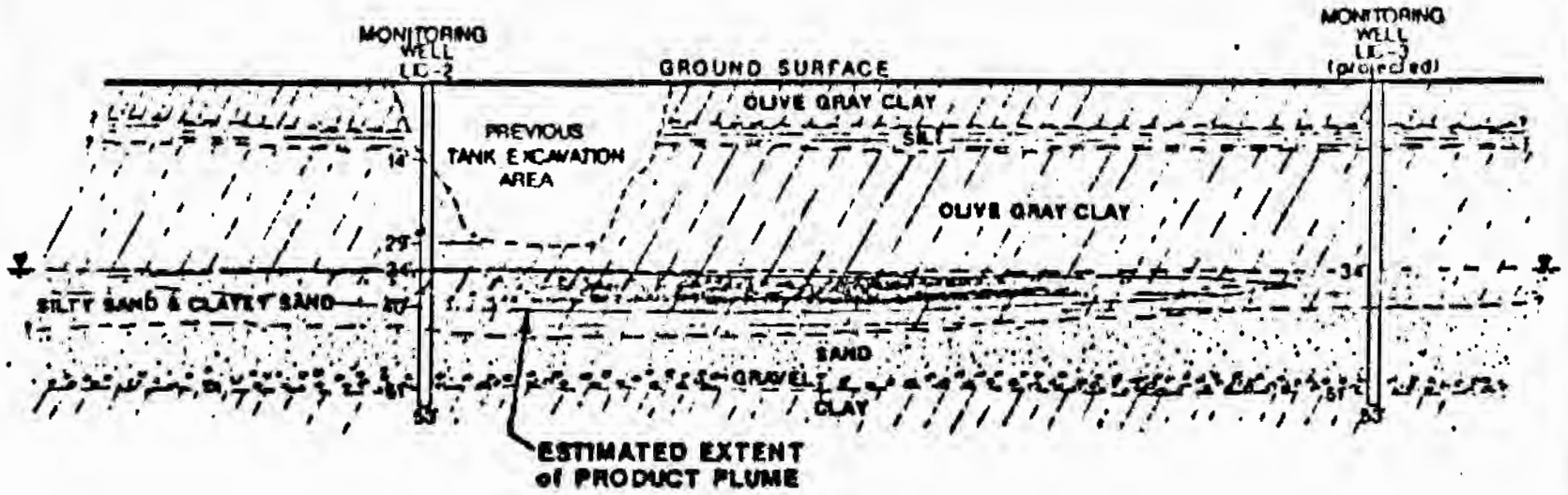
SEJ:JFF:vgj

Attachments



ALDRICH, EASTMAN & WALTON
Lincoln Distribution Center
Santa Fe Springs, California

PLATE



Not to Scale

LOOKING NORTH EAST

KLEINFELDER

ALDRICH, EASTMAN & WALTCH
Lincoln Industrial Center
Santa Fe Springs, California

PLATE

Chemical Research Laboratories, Inc.
7440 Lincoln Way - Garden Grove CA 92641
(714) 898-4378 - (213) 598-0458

February 24, 1988

J.H. KLEINFELDER & ASSOCIATES
17100 Pioneer Blvd., Suite 350
Artesia, CA 90701
ATTN: Steve Joseph

ANALYSIS NO.: 804801-006/011
ANALYSES: See Attachment
DATE SAMPLED: 02/16/88
DATE SAMPLE REC'D: 02/17/88
PROJECT: 50-1346-01

Enclosed with this letter is the report on the chemical and physical analyses on the samples from ANALYSIS NO: 804801-006/011 shown above.

Eleven solid samples were received by CRL in a chilled state, intact, and with the chain-of-custody record attached. Eight samples were on hold.

Please note that ND( ) means not detected at the detection limit expressed within the parentheses.

Relative percent difference of matrix for Selenium was outside acceptance limits, although recovery value was within the limits. Because no Selenium was found in samples, the results were accepted after review of data.

REVIEWED AND APPROVED

KLEINFELDER

FACSIMILE TRANSMITTAL

TO: COMPANY L.A Regional Water Qual. Control Board

FAX # 213-620-6432

ATTN J.C. Chia

TRANSMITTED:

- ✓ As requested
- ___ For approval
- ___ For review and comment
- ___ For your use
- ___ Other ___

ORIGINALS:

- ___ Sent via Fed X
- ___ Courier
- ___ U.S. Mail
- ___ Transbox
- ___ Other ___

Transmitted to you were 12 pages including this cover sheet.

If for any reason you did not receive the complete transmittal, or if the transmitted material was not legible, please call (213) 860-5559.

SUBJECT: Lincoln Industrial center

REMARKS: Will sample groundwater from LIC-2 and LIC-3 for total lead

Our FAX #: (213) 860-6572 Sender: Linda Balca / Steve Joseph

Verify Receipt YES ___ NO ✓

PROJECT # 50-1448.04

Chemical Research Laboratories, Inc.
7440 Lincoln Way • Garden Grove, CA 92641
(714) 898-9378 • (213) 599-0458

February 23, 1988

J.H. KLEINFELDER & ASSOCIATES
17100 Pioneer Blvd., Suite 350
Artesia, CA 90701
ATTN: Stephen Joseph

ANALYSIS NO.: 804909-007/011
ANALYSES: EPA Method 8240, 624
DATE SAMPLED: 02/18/88
DATE SAMPLE REC'D: 02/18/88
PROJECT: 50-1346-03

Enclosed with this letter is the report on the chemical and physical analyses on the samples from ANALYSIS NO: 804909-007/011 shown above.

Eleven solid samples were received by CRL in a chilled state, intact, and with the chain-of-custody record attached. Eight were on hold.

Please note that ND( ) means not detected at the detection limit expressed within the parentheses.

REVIEWED AND APPROVED

Chemical Research Laboratories, Inc.
7440 Lincoln Way • Garden Grove, CA 92641
(714) 898-9370 • (213) 598-0458

Soil sample from
LIC-3
at 35'

LABORATORY REPORT

J.H. KLEINFELDER & ASSOCIATES
17100 Pioneer Blvd., Suite 350
Artesia, CA 90701
ATTN: Stephen Joseph

Sample ID: S-03-35

ANALYSIS NO.: 804909-007
ANALYSES: EPA Method 8240
DATE SAMPLED: 02/18/88
DATE SAMPLE REC'D: 02/18/88
DATE ANALYZED: 02/18/88
SAMPLE TYPE: Solid
PROJECT: 50-1346-03

EPA METHOD 8240 PURGEABLE ORGANICS

UNITS: ug/kg

COMPOUND	RESULT	BLANK	DETECTION LIMIT
Chloromethane	ND	ND	10.
Bromomethane	ND	ND	10.
Vinyl Chloride	ND	ND	10.
Chloroethane	ND	ND	10.
Methylene Chloride	ND	ND	5.
Acetone	ND	ND	10.
Carbon Disulfide	ND	ND	5.
1,1-Dichloroethene	ND	ND	5.
1,1-Dichloroethane	ND	ND	5.
Trans-1,2-Dichloroethene	ND	ND	5.
Chloroform	ND	ND	5.
1,2-Dichloroethane	ND	ND	5.
2-Butanone	ND	ND	10.
1,1,1-Trichloroethane	ND	ND	5.
Carbon Tetrachloride	ND	ND	5.
Vinyl Acetate	ND	ND	10.
Bromodichloromethane	ND	ND	5.
1,2-Dichloropropane	ND	ND	5.
Trans-1,3-Dichloropropene	ND	ND	5.
Trichloroethene	ND	ND	5.
Dibromochloromethane	ND	ND	5.
1,1,2-Trichloroethane	ND	ND	5.
Benzene	ND	ND	5.
Cis-1,3-Dichloropropene	ND	ND	5.
2-Chloroethyl Vinyl Ether	ND	ND	10.
Bromoform	ND	ND	5.
4-Methyl-2-Pentanone	ND	ND	10.
2-Hexanone	ND	ND	10.
Tetrachloroethene	ND	ND	5.
1,1,2,2-Tetrachloroethane	ND	ND	5.
Toluene	ND	ND	5.
Chlorobenzene	ND	ND	5.
Ethylbenzene	ND	ND	5.
Styrene	ND	ND	5.
Total Xylenes	ND	ND	5.

NOTE: All results are blank subtracted.

Water sample from LIC-1 near sump PCE is regional problem

Chemical Research Laboratories, Inc.
7440 Lincoln Way • Garden Grove, CA 92641
(714) 898-6370 • (213) 598-0468

LABORATORY REPORT

J.H. KLEINFELDER & ASSOCIATES
17100 Pioneer Blvd., Suite 350
Artesia, CA 90701
ATTN: Stephen Joseph

Sample ID: [redacted]

ANALYSIS NO.: 804909-008
ANALYSES: EPA Method 624
DATE SAMPLED: 02/18/88
DATE SAMPLE REC'D: 02/18/88
DATE ANALYZED: 02/18/88
SAMPLE TYPE: Solid
PROJECT: 50-1346-03

EPA METHOD 624 PURGEABLE ORGANICS

UNITS: [redacted]

COMPOUND	RESULT	BLANK	DETECTION LIMIT
Chloromethane	ND	ND	10.
Bromomethane	ND	ND	10.
Vinyl Chloride	ND	ND	10.
Chloroethane	ND	ND	10.
Methylene Chloride	ND	ND	5.
Acetone	ND	ND	10.
Carbon Disulfide	ND	ND	5.
1,1-Dichloroethene	ND	ND	5.
1,1-Dichloroethane	ND	ND	5.
Trans-1,2-Dichloroethene	ND	ND	5.
Chloroform	ND	ND	5.
1,2-Dichloroethane	ND	ND	5.
2-Butanone	ND	ND	10.
1,1,1-Trichloroethane	ND	ND	5.
Carbon Tetrachloride	ND	ND	5.
Vinyl Acetate	ND	ND	10.
Bromodichloromethane	ND	ND	5.
1,2-Dichloropropane	ND	ND	5.
Trans-1,3-Dichloropropene	ND	ND	5.
Trichloroethene	ND	ND	5.
Dibromochloromethane	ND	ND	5.
1,1,2-Trichloroethane	ND	ND	5.
Benzene	ND	ND	5.
Cis-1,3-Dichloropropene	ND	ND	5.
2-Chloroethyl Vinyl Ether	ND	ND	10.
Bromoform	ND	ND	5.
4-Methyl-2-Pentanone	ND	ND	10.
2-Hexanone	ND	ND	10.
[redacted]	[redacted]	ND	5.
1,1,2,2-Tetrachloroethane	ND	ND	5.
Toluene	ND	ND	5.
Chlorobenzene	ND	ND	5.
Ethylbenzene	ND	ND	5.
Styrene	ND	ND	5.
Total Xylenes	ND	ND	5.

water sample
from LIC-3
upgradient well
PCE is regional
problem

Chemical Research Laboratories, Inc.
7440 Lincoln Way • Garden Grove, CA 92641
(714) 898-9370 • (213) 596-0466

LABORATORY REPORT

J.H. KLEINFELDER & ASSOCIATES
17100 Pioneer Blvd., Suite 350
Artesia, CA 90701
ATTN: Stephen Joseph

Sample ID: [illegible]

ANALYSIS NO.: 804909-011
ANALYSES: EPA Method 624
DATE SAMPLED: 02/18/88
DATE SAMPLE REC'D: 02/18/88
DATE ANALYZED: 02/19/88
SAMPLE TYPE: Solid
PROJECT: 50-1346-03

EPA METHOD 624 PURGEABLE ORGANICS

UNITS: ug/L

COMPOUND	RESULT	BLANK	DETECTION LIMIT
Chloromethane	ND	ND	10.
Bromomethane	ND	ND	10.
Vinyl Chloride	ND	ND	10.
Chloroethane	ND	ND	10.
Methylene Chloride	ND	ND	5.
Acetone	ND	ND	10.
Carbon Disulfide	ND	ND	5.
1,1-Dichloroethene	ND	ND	5.
1,1-Dichloroethane	ND	ND	5.
Trans-1,2-Dichloroethene	ND	ND	5.
Chloroform	ND	ND	5.
1,2-Dichloroethane	ND	ND	5.
2-Butanone	ND	ND	10.
1,1,1-Trichloroethane	ND	ND	5.
Carbon Tetrachloride	ND	ND	5.
Vinyl Acetate	ND	ND	10.
Bromodichloromethane	ND	ND	5.
1,2-Dichloropropane	ND	ND	5.
Trans-1,3-Dichloropropene	ND	ND	5.
Trichloroethene	ND	ND	5.
Dibromochloromethane	ND	ND	5.
1,1,2-Trichloroethane	ND	ND	5.
Benzene	ND	ND	5.
Cis-1,3-Dichloropropene	ND	ND	5.
2-Chloroethyl Vinyl Ether	ND	ND	10.
Bromoform	ND	ND	5.
4-Methyl-2-Pentanone	ND	ND	10.
2-Hexanone	ND	ND	10.
Tetrachloroethene	19.	ND	5.
1,1,2,2-Tetrachloroethane	ND	ND	5.
Toluene	ND	ND	5.
Chlorobenzene	ND	ND	5.
Ethylbenzene	ND	ND	5.
Styrene	ND	ND	5.
Total Xylenes	ND	ND	5.

Chemical Research Laboratories, Inc.
7440 Lincoln Way • Garden Grove CA 92641
(714) 898-4378 • (213) 898-0468

QA/QC SUMMARY

J.H. KLEINFELDER & ASSOCIATES
17100 Pioneer Blvd., Suite 350
Artesia, CA 90701
ATTN: Stephen Joseph

ANALYSIS NO.: 804909-007/011
ANALYSES: See Attachment
DATE SAMPLED: 02/18/88
DATE SAMPLE REC'D: 02/18/88
PROJECT: 50-1346-03

QA/QC SUMMARY

Date	Parameter(method)	Average Matrix Spike Recovery%	Acceptable Range%	Relative Percent Difference	Acceptable Range%
2/18/88	1,1-Dichloroethene (EPA 8240)	97	50-170	2	21
2/18/88	Chlorobenzene (EPA 8240)	100	85-138	8	20
2/18/88	1,1-Dichloroethene (EPA 624)	97	61-145	2	14
2/18/88	Chlorobenzene (EPA 624)	100	75-130	8	13

Chemical Research Laboratories, Inc.
7440 Lincoln Way • Garden Grove, CA 92641
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February 24, 1988

J.H. KLEINFELDER & ASSOCIATES
17100 Pioneer Blvd., Suite 350
Artesia, CA 90701
ATTN: Steve Joseph

ANALYSIS NO.: 804801-006/011
ANALYSES: See Attachment
DATE SAMPLED: 02/16/88
DATE SAMPLE REC'D: 02/17/88
PROJECT: 50-1346-01

Enclosed with this letter is the report on the chemical and physical analyses on the samples from ANALYSIS NO: 804801-006/011 shown above.

Eleven solid samples were received by CRL in a chilled state, intact, and with the chain-of-custody record attached. Eight samples were on hold.

Please note that ND( ) means not detected at the detection limit expressed within the parentheses.

Relative percent difference of matrix for Selenium was outside acceptance limits, although recovery value was within the limits. Because no Selenium was found in samples, the results were accepted after review of data.

REVIEWED AND APPROVED

Chemical Research Laboratories, Inc.
7440 Lincoln Way • Garden Grove, CA 92641
(714) 898-6370 • (213) 599-6458

J.H. KLEINFELDER & ASSOCIATES
17100 Pioneer Blvd., Suite 350
Artesia, CA 90701
ATTN: Steve Joseph

ANALYSIS NO.: 804801-006/011
ANALYSES: See Attachment
DATE SAMPLED: 02/16/88
DATE SAMPLE REC'D: 02/17/88
PROJECT: 50-1346-01

The following tests were performed on the samples received:

TEST	METHOD	REFERENCE	COMMENTS
CAC Metals (Total)	EPA 6010	SW 846, 1986	ICAP/AA
Arsenic	EPA 7061	SW 846, 1986	AA, Gaseous Hydride
Selenium	EPA 7741	SW 846, 1986	AA, Gaseous Hydride
Mercury	EPA 7470	SW 846, 1986	Manual Cold Vapor
Aromatic Volatile Organics (solid)	EPA 8020	SW 846, 1986	GC/PID Detector
Total Petroleum Hydrocarbons	EPA 8015	SW 846, 1986	GC/FID
Purgeable Organics	EPA 8240	SW 846, 1986	GC/MS Detector

Soil sample from LIC-1 at 30 feet

Chemical Research Laboratories, Inc.
7440 Lincoln Way • Garden Grove, CA 92641
(714) 898-6370 • (213) 698-0468

LABORATORY REPORT

J.H. KLEINFELDER & ASSOCIATES
17100 Pioneer Blvd., Suite 350
Artesia, CA 90701
ATTN: Steve Joseph

Sample ID: ~~S-01-30~~

ANALYSIS NO.: 804801-006
ANALYSES: EPA Method 8240
DATE SAMPLED: 02/16/88
DATE SAMPLE REC'D: 02/17/88
DATE ANALYZED: 02/19/88
SAMPLE TYPE: ~~Solid~~
PROJECT: 50-1346-01

EPA METHOD 8240 PURGEABLE ORGANICS

UNITS: ug/kg

COMPOUND	RESULT	BLANK	DETECTION LIMIT
Chloromethane	ND	ND	10.
Bromomethane	ND	ND	10.
Vinyl Chloride	ND	ND	10.
Chloroethane	ND	ND	10.
Methylene Chloride	ND	ND	5.
Acetone	ND	ND	10.
Carbon Disulfide	ND	ND	5.
1,1-Dichloroethene	ND	ND	5.
1,1-Dichloroethane	ND	ND	5.
Trans-1,2-Dichloroethene	ND	ND	5.
Chloroform	ND	ND	5.
1,2-Dichloroethane	ND	ND	5.
2-Butanone	ND	ND	10.
1,1,1-Trichloroethane	ND	ND	5.
Carbon Tetrachloride	ND	ND	5.
Vinyl Acetate	ND	ND	10.
Bromodichloromethane	ND	ND	5.
1,2-Dichloropropane	ND	ND	5.
Trans-1,3-Dichloropropene	ND	ND	5.
Trichloroethene	ND	ND	5.
Dibromochloromethane	ND	ND	5.
1,1,2-Trichloroethane	ND	ND	5.
Benzene	ND	ND	5.
Cis-1,3-Dichloropropene	ND	ND	5.
2-Chloroethyl Vinyl Ether	ND	ND	10.
Bromoform	ND	ND	5.
4-Methyl-2-Pentanone	ND	ND	10.
2-Hexanone	ND	ND	10.
Tetrachloroethene	ND	ND	5.
1,1,2,2-Tetrachloroethane	ND	ND	5.
Toluene	ND	ND	5.
Chlorobenzene	ND	ND	5.
Ethylbenzene	ND	ND	5.
Styrene	ND	ND	5.
Total Xylenes	ND	ND	5.

NOTE: All results are blank subtracted.

Soil sample from

LIC-1

at 30 feet

Chemical Research Laboratories, Inc.
7440 Lincoln Way • Garden Grove, CA 92641
(714) 898-8370 • (213) 596-0468

LABORATORY REPORT

J.H. KLEINFELDER & ASSOCIATES
17100 Pioneer Blvd., Suite 350
Artesia, CA 90701
ATTN: Steve Joseph

Sample ID: [redacted]

ANALYSIS NO.: 804801-006
ANALYSES: Metals
DATE SAMPLED: 02/16/88
DATE SAMPLE REC'D: 02/17/88
DATE ANALYZED: 02/19-23/88
SAMPLE TYPE: [redacted]
PROJECT: 50-1346-01

UNITS: [redacted]

PARAMETERS	RESULTS	BLANK	DETECTION LIMIT
Arsenic (EPA 7061)	[redacted]	ND	0.1
Barium (EPA 6010)	[redacted]	ND	0.5
Cadmium (EPA 6010)	[redacted]	ND	0.1
Chromium (EPA 6010)	[redacted]	ND	0.1
Lead (EPA 6010)	[redacted]	ND	0.5
Mercury (EPA 7471)	[redacted]	ND	0.05
Selenium (EPA 7741)	ND	ND	0.1
Silver (EPA 6010)	ND	ND	0.05

Chemical Research Laboratories, Inc.
7440 Lincoln Way • Garden Grove, CA 92641
(714) 898-4370 • (213) 598-0458

Soil samples
LIC 2 at 20 and
30 feet, respectively

LABORATORY REPORT

J.H. KLEINFELDER & ASSOCIATES
17100 Pioneer Blvd., Suite 350
Artesia, CA 90701
ATTN: Steve Joseph

ANALYSIS NO.: 804801-009/011
ANALYSES: EPA Method 8015
DATE SAMPLED: 02/16/88
DATE SAMPLE REC'D: 02/17/88
DATE ANALYZED: 02/17/88
SAMPLE TYPE: Soils
PROJECT: 50-1346-01

TOTAL PETROLEUM HYDROCARBONS BY EPA 8015*

UNITS: mg/kg

SAMPLE ID	RESULTS	BLANK	DETECTION LIMIT
[redacted]	[redacted]	ND	1.
S-02-30	ND	ND	1.

*Quantitation based on diesel standard.

Chemical Research Laboratories, Inc.
7440 Lincoln Way • Garden Grove, CA 92641
(714) 898-6370 • (213) 598-0458

QA/QC SUMMARY

J.H. KLEINFELDER & ASSOCIATES
17100 Pioneer Blvd., Suite 350
Artesia, CA 90701
ATTN: Steve Joseph

ANALYSIS NO.: 804801-006/011
ANALYSES: See Attachment
DATE SAMPLED: 02/16/88
DATE SAMPLE REC'D: 02/17/88
PROJECT: 50-1346-01

QA/QC SUMMARY

Date	Parameter(method)	Average Matrix Spike Recovery%	Acceptable Range%	Relative Percent Difference	Acceptable Range%
2/22/88	Barium (EPA 6010)	92	41.3-93.7	13	25
2/22/88	Cadmium (EPA 6010)	98	38.0-103	7	22
2/22/88	Chromium (EPA 6010)	124	45.8-128	24	35
2/22/88	Lead (EPA 6010)	114	41.1-123	22	43
2/22/88	Silver (EPA 6010)	80	38.5-106	9	24
2/22/88	Arsenic (EPA 7061)	76	62-105	16	17
2/22/88	Selenium (EPA 7741)	60	44-99	26	22
2/22/88	Mercury (EPA 7471)	103	80-117	2	25
2/19/88	1,1-Dichloroethene (EPA 8240)	97	50-170	2	21
2/19/88	Chlorobenzene (EPA 8240)	100	85-138	8	20
2/17/88	Total Petroleum Hydrocarbons (EPA 8015)	122	70-130	2	40
2/17/88	Toluene (EPA 8020)	82	60-120	39	40
2/17/88	Xylenes (EPA 8020)	66	60-120	30	40